

ABSTRACT OF DISCLOSURE

A multi-layer structure whose volume changes when a temperature exceeds a predetermined threshold value, a microscopic structure drawing method that involves emitting a laser beam onto the multi-layer structure to create a temperature distribution within a beam spot and performing microscopic recording on a portion of the beam spot having a temperature higher than the threshold value, an optical disc master, and a mastering method using the same, where the multi-layer structure includes a substrate and a transformation layer formed on the substrate, wherein a volume of a portion of the transformation layer irradiated by a laser beam changes when the temperature of the portion exceeds a predetermined temperature. The microscopic structure drawing method includes emitting the laser beam onto a predetermined region of the transformation layer and heating the region of the transformation layer irradiated by the laser beam beyond a predetermined temperature so that the heated region can undergo a volume change.